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Synthesis and structure of the products of the reactions of 3-chloro-5-methoxy-4-[(4-methylphenyl)sul-anyl]-2(5H)-furanone with N,N-binucleophilic agents

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Abstract

Reactions of 3-chloro-5-methoxy-4-[(4-methylphenyl)sulfanyl]-2(5H)-furanone with different nitrogen-containing binucleophilic agents were studied. The reaction with hydrazine monohydrate resulted in the formation of 1,5-dihydro-2H-pyrrol-2-one and pyridazin-3(2H)-one derivatives, whereas the reaction with phenylhydrazine led exclusively to 1-phenylamino-1-5-dihydro-2H- pyrrol-2-one. The reaction with ethylenediamine resulted in the isolation of 1,2-bis[2-oxo-1,5-dihydro-2H-pyrrol-1-yl]ethane: the enantiomeric dl-pair and two poly-morphic modifications of meso-form, which were characterized by X-ray crystallography. © 2013 Springer Science+Business Media New York.

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Keywords

1,5-dihydro-2H-pyrrol-2-ones, 2(5H)-furanones, 3-pyrrolin-2-ones, diastereomers, hydrazines, nitrogen-containing binucleophiles, polymorphism, pyridazin-3(2H)-ones, thioethers, X-ray diffraction analysis